



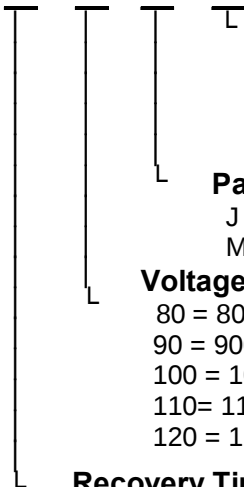
Solid State Devices, Inc.

14701 Firestone Blvd * La Mirada, Ca 90638
 Phone: (562) 404-4474 * Fax: (562) 404-1773
 ssdi@ssdi-power.com * www.ssdi-power.com

DESIGNER'S DATA SHEET

Part Number / Ordering Information ^{1/}

SDR55



Screening ^{2/}

— = Not Screened

TX = TX Level

TXV = TXV Level

S = S Level

Package Type

J = TO-257

M = TO-254

Voltage/Family

80 = 800V

90 = 900V

100 = 1000V

110 = 1100V

120 = 1200V

Recovery Time

UF = Ultra Fast

SDR30U080J thru SDR30U120J
and
SDR40U080M thru SDR40U120M

30/40 AMP
Ultra Fast Recovery
Rectifier
800 - 1200 Volts
50 nsec

Features:

- Ultra Fast Recovery: 40 nsec typical
- High Surge Rating
- Low Reverse Leakage Current
- Low Forward Voltage Drop
- Low Junction Capacitance
- Hermetically Sealed Package
- Gold Eutectic Die Attach available
- Ultrasonic Aluminum Wire Bonds
- Ceramic Seals for improved hermeticity available
- TX, TXV, Space Level Screening Available Consult Factory. ^{2/}

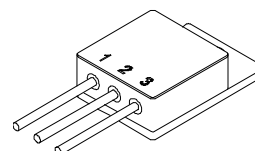
Maximum Ratings		Symbol	Value	Units	
Peak Repetitive Reverse and DC Blocking Voltage	SDR30U080/SDR40U080	V_{RRM}	800	Volts	
	SDR30U090/SDR40U090		900		
	SDR30U100/SDR40U100	V_{RWM}	1000		
	SDR30U110/SDR40U110		1100		
	SDR30U120/SDR40U120	V_R	1200		
Average Rectified Forward Current (Resistive Load, 60 Hz Sine Wave, $T_A = 25^{\circ}\text{C}$) ^{3/}		TO-257 TO-254	I_o	30 40	Amps
Peak Surge Current (8.3 ms Pulse, Half Sine Wave Superimposed on I_o , Allow Junction to Reach Equilibrium Between Pulses, $T_A = 25^{\circ}\text{C}$) ^{3/}			I_{FSM}	250	Amps
Operating & Storage Temperature		Top & Tstg	-65 to +200	$^{\circ}\text{C}$	
Maximum Thermal Resistance Junction to End Tab ^{3/}			$R_{\theta JE}$	1.25	$^{\circ}\text{C/W}$

^{1/} For ordering information, price, operating curves, and availability - Contact factory.

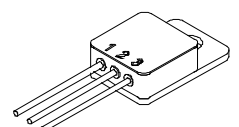
^{2/} Screening based on MIL-PRF-19500. Screening flows available on request.

^{3/} Pins 2 & 3 connected.

TO-254 (M)



TO-257 (J)



NOTE: All specifications are subject to change without notification.
 SCD's for these devices should be reviewed by SSDI prior to release.

DATA SHEET #: RC0143A

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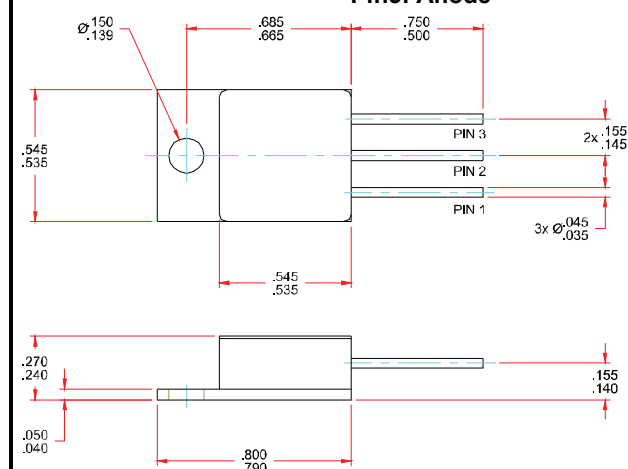
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**SDR30U080J thru SDR30U120J
and
SDR40U080M thru SDR40U120M**

Electrical Characteristics		Symbol	Typ	Max	Units
Instantaneous Forward Voltage Drop (T _A = 25°C, 300 μsec pulse)	I _F = 5Adc	V _{F1}	1.65	--	Volts
	I _F = 10Adc		1.73	1.9	
	I _F = 20Adc		1.85	2.1	
	I _F = 30Adc		1.92	2.2	
	I _F = 50Adc		2.1	2.5	
Instantaneous Forward Voltage Drop (T _A = -55°C, 300 μsec pulse)	I _F = 5Adc	V _{F2}	1.7	--	Volts
	I _F = 10Adc		1.75	1.95	
	I _F = 20Adc		1.85	2.1	
	I _F = 30Adc		1.92	2.2	
	I _F = 50Adc		2.05	2.5	
Instantaneous Forward Voltage Drop (T _A = 125°C, 300 μsec pulse)	I _F = 5Adc	V _{F3}	1.12	--	Volts
	I _F = 10Adc		1.3	1.6	
	I _F = 20Adc		1.52	1.8	
	I _F = 30Adc		1.65	2.0	
	I _F = 50Adc		1.88	2.35	
Reverse Leakage Current (Rated V _R , T _A = 25°C, 300 μsec pulse minimum)		I _{R1}	20	100	μA
Reverse Leakage Current (Rated V _R , T _A = 100°C, 300 μsec pulse minimum)		I _{R2}	1.5	--	mA
(Rated V _R , T _A = 125°C, 300 μsec pulse minimum)			5	20	
(Rated V _R , T _A = 150°C, 300 μsec pulse minimum)			15	--	
Junction Capacitance (V _R = 5 Vdc, T _A = 25°C, f = 1MHz)		C _J	50	--	pF
(V _R = 10 Vdc, T _A = 25°C, f = 1MHz)			45	75	
Reverse Recovery Time (I _F = 500 mA, I _R = 1A, I _{RR} = 0.25A) (I _F = 500 mA, I _R = 1A, I _{RR} = 0.25A) (I _F = 10 A, dI _F /dt = 100A/us) (I _F = 10 A, dI _F /dt = 100A/us) (I _F = 10 A, dI _F /dt = 100A/us) (I _F = 10 A, dI _F /dt = 100A/us)	T _A = 25°C	t _{rr1}	35	50	nsec
	T _A = 100°C	t _{rr2}	100	--	nsec
	T _A = 25°C	t _{rr3}	50	--	nsec
	T _A = 25°C	I _{RM3}	3.7	--	A
	T _A = 100°C	t _{rr4}	110	--	nsec
	T _A = 100°C	I _{RM4}	6	--	A

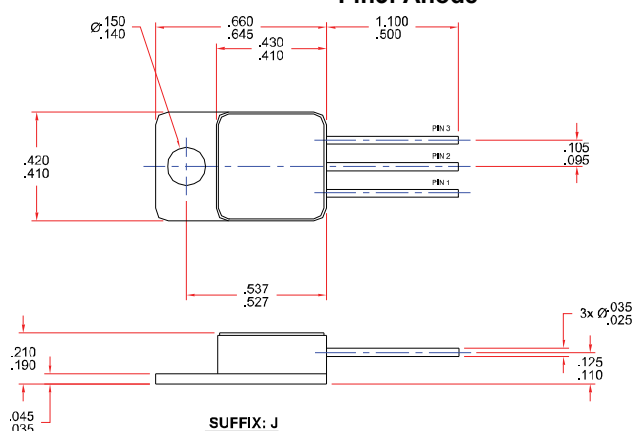
Case Outline: TO-254

Pin1: Cathode
Pin2: Anode
Pin3: Anode



Case Outline: TO-257

Pin1: Cathode
Pin2: Anode
Pin3: Anode



Note 1: Pin 2&3 connected together

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